

Serial No.10/603,394
Docket No. 10019249-1

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REMARKS

Claims 1-4, 6-17, and 19-26 are pending in the present application.

Reconsideration of the application is respectfully requested in view of the following responsive remarks. In the Office Action of April 6, 2007, all of the pending claims were rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,507,865 (hereinafter "Yoshida") in view of U.S. Patent No. 5,106,416 (hereinafter "Moffatt").

Rejections Under 35 U.S.C. § 103

The Examiner has rejected all pending claims as being obvious over Yoshida in view of Moffatt. Before discussing the obviousness rejections herein, it is thought proper to briefly state what is required to sustain such a rejection. The issue under § 103 is whether the PTO has stated a case of *prima facie* obviousness. According to the MPEP § 2142, the Examiner has the burden and must establish a case of *prima facie* obviousness by showing the prior art reference, or references combined, teach or suggest all the claim limitations in the instant application. The Applicant respectfully asserts the Examiner has not satisfied the requirement for establishing a case of *prima facie* obviousness in any of the rejections.

As previously set forth, the Yoshida reference is drawn towards an aqueous ink composition that, when used in recording, gives a high-quality recorded image having improved image density while preventing the bronzing phenomenon. The aqueous ink compositions taught in Yoshida can include a water-soluble dye, water, and a basic amino acid. Additionally, Yoshida discloses, without giving any examples or guidance whatsoever, that "the present invention may further contain, if desired or necessary, other additives such as a wetting agent, a surfactant, a pH regulator, an antiseptic, a mildew-proofing agent, an evaporation accelerator, and a chelating agent." The Examiner has stated that Yoshida does not specifically teach an "amphoteric" surfactant.

Moffatt teaches ink-jet inks which utilize various types of surfactants to improve the color bleeding of the ink-jet ink. There is no specific suggestion of using amphoteric surfactants over other types of surfactants. The inks taught in Moffatt can comprise a vehicle, a cationic dye, high boiling point solvent, and one or two

Serial No.10/603,394
Docket No. 10019249-1

8

amphiphile surfactant(s) at concentrations above their critical micelle concentration (cmc). (The term "amphiphile" should not be confused with "amphoteric surfactant," as one has to do with hydrophobic/hydrophilic character which all surfactants exhibit, and the other has to do with charge wherein within certain pH ranges, both a positive and a negative charge can be present simultaneously). Above the cmc, micelles form, which attract the dye molecule and thus control the color bleed. This is true in Moffatt regardless of whether an amphoteric surfactant or any other type of surfactant is used.

Lack of each and every element

As the claims are presently amended, the black ink of the present invention is to be formulated such that either (1) the black ink-jet ink has improved optical density on bright white paper when compared to a similar (comparison) black ink-jet ink which is identical with the ink-jet ink except that it is devoid of the naturally occurring amino in favor of added water; or (2) the black ink has improved bleed control when printed against a non-reactive color-ink-jet ink on bright white paper when compared to a second black ink-jet ink which is identical with the ink-jet ink except that it is devoid of the naturally occurring amino in favor of added water. Such claim limitation requires not only that the noted elements of the ink be present (water, cosolvent, amino acid, amphoteric surfactant, black colorant), and that they be present in the noted quantities (from 0.01 wt% to 2 wt% amphoteric surfactant), but that they also be formulated, meaning selected and included in an appropriate amount with other ingredients, so that the further claim limitations are met (improved optical density or improved bleed control). The current state of the claims certainly requires selection of a solubilized naturally occurring amino acid and an amphoteric surfactant for inclusion in the liquid vehicle with the other component in mind, as both are necessary to have the improved optical density and/or improved bleed control.

Neither Yoshida nor Moffatt teach the combination of solubilized naturally occurring amino acid and an amphoteric surfactant. Yoshida teaches an ink composition including an amino acid, and Moffatt teaches the use of a variety of surfactants, including amphoteric surfactants. Therefore, the combination of references can not teach, either explicitly or inherently, a combination of solubilized naturally occurring amino acid and an amphoteric surfactant. Furthermore, without

Serial No.10/603,394
Docket No. 10019249-1

9

teaching of the combination, the references naturally can not teach the combination that is formulated to produce the improved optical density and/or improved bleed control. The Examiner has relied on individual components from each of Yoshida and Moffatt. However, Yoshida does not mention amphoteric surfactants, nor does Moffatt teach the inclusion of amino acids in an ink formulation. As neither reference teaches both ink components, neither reference can teach a formulation that requires both components, nor can either reference teach a combination of both components that is formulated to produce the improved optical density and/or improved bleed control as claimed. In other words, it is the combination of these two ingredients that provides the improved optical density and/or improved bleed control as claimed, and it is the interrelationship of these two ingredients that is an element of the claim itself. Additionally, the cited references do not teach the claimed element of from 0.01 wt% to 2 wt% of an amphoteric surfactant in a black ink.

Therefore, the combined references do not teach each and every claimed element. Specifically, the combined references do not teach (a) the combination of solubilized naturally occurring amino acid and an amphoteric surfactant, (b) the combination of solubilized naturally occurring amino acid and an amphoteric surfactant formulated to produce the improved optical density and/or improved bleed control, or (c) from 0.01 wt% to 2 wt% of an amphoteric surfactant in a black ink. As such, a *prima facie* case of obviousness has not been presented. Therefore, removal of the rejection is respectfully requested.

Teaching away

In addition to the combination of Yoshida and Moffatt not teaching each and every element of the claimed invention, the references themselves teach away from their combination in the manner proposed by the Examiner. Such is apparent by examination of the nature of the colorant in Yoshida and Moffatt. Moffatt is drawn to using surfactants with cationic dyes. As set forth in the Moffatt specification, the cationic dyes interact with the surfactants described therein. Conversely, Yoshida describes water-soluble dyes for use generally, and only exemplifies dyes that are not cationic. If the specifically described dyes of Yoshida were used in accordance with the Moffatt reference, then the function of Moffatt would be changed, i.e. such a modification would require changing what Moffatt teaches as an element of the

Serial No. 10/603,394
Docket No. 10019249-1

10

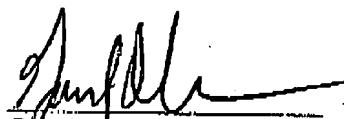
invention, and therefore Mossatt teaches away from combination with Yoshida as the Examiner proposes. Reconsideration on these alternative grounds is respectfully requested.

In view of the foregoing, Applicants believe that claims 1-4, 6-17, and 19-26 present allowable subject matter and allowance is respectfully requested. Therefore, Applicant requests that the rejections and objections be withdrawn, and that the claims be allowed and passed to issue. If any impediment to the allowance of these claims remains after entry of this Amendment, the Examiner is strongly encouraged to call the undersigned so that such matters may be resolved as expeditiously as possible.

The Commissioner is hereby authorized to charge any additional fee or to credit any overpayment in connection with this Amendment to Deposit Account No. 08-2025.

Dated this 3rd day of July, 2007.

Respectfully submitted,



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